



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

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February 7, 2001

Mr. Kerry C. Gee
Vice President
United Park City Mines Company
PO Box 1450
Park City, UT 84060

RE: October 24, 2001 Draft Sampling and Analysis Plan (SAP) for Richardson Flat RI

Dear Mr. Gee:

This letter represents EPA's tentative approval of the referenced document. The revised version is greatly improved from the initial draft and satisfactorily addressed nearly all of EPA's and UDEQ's comments. A few additional comments, based on the new draft, and a few outstanding issues are detailed below. We consider these issues minor, therefore an additional review cycle is not necessary. Please address these few remaining comments, if necessary, in a final document. My signature on that document will represent our final approval.

1. Keeping in mind that this SAP was not intended to provide all data needed for assessing risk, we briefly reviewed the plan to ensure that data collected in this event will be beneficial towards assessing ecological risk. With our current knowledge, it appears that the planned detection limits and analytes will be sufficient for risk-based use and that this plan (and a screening level risk assessment based on existing data) will lay a good foundation for any additional sampling needed in the future.
2. Page 22, Section 2.2.4.14. This section summarizes pathways of concern for human and ecological receptors. However, the list presented appears to be slightly inconsistent with the preceding text. Direct contact with tailings mixed with soil and off-site use of ground water were discussed as potentially complete pathways in Sections 2.2.4.9 and 2.2.4.10 respectively and should be added to the list here.
3. Page 23, Surface Water and Sediments. We suggest that Bullet # 1 be changed to read: "...Use the data to determine...in the sediments and in ecological *and human health* risk assessment." This is due to the fact that ingestion of (contact with) sediments by humans is considered a potentially complete pathway in this SAP.
4. Section 2.2.4.10 describes the data needs regarding off-site use of ground water, specifically a well survey. However, this is not reflected in the objectives on Page 23. A bullet should be added to detail the objectives of the well survey.
5. Page 28, Section 3.1.3. We suggest that all of the onsite soil samples be archived. Data from this event may lead you want to further analyze the 80% of samples which were analyzed only for lead and arsenic. This could eliminate the need for remobilization.



6. Page 29, Section 3.1.3.1. In Figure 7, the wind rose shows predominate wind directions as Northwest and Southeast. However, the off-site soil samples are directly north and south of the site. This seems to leave off some areas which may be impacted or at least needs further explanation. We realize that the wind rose was collected under specific conditions which may not represent the norm for Richardson Flats. We also realize that it would not be possible to screen for wind-blown tailings at certain areas outside the impoundment (e.g. to the northwest along the Silver Creek flood plain). Nonetheless, perhaps a few additional samples to the east/southeast of the site, and to the west/northwest outside of any impact from the flood plain, would ensure that we are not missing anything in the screening.
7. Page 32, Section 3.1.6. Along the same lines as the previous comments, some of the background samples are very close the areas being screened for off-site tailings. To be credible, background samples could not have been impacted by site processes. In a few of those locations, you cannot say that with clarity. These locations should be rethought or removed. Also, depending on the results of the analysis, more than 20% of the samples may need to be analyzed for all metals (see comment 5). Again, we suggest archival of these samples.
8. Page 34, Section 3.2.3. The last sentence states that since human health risk is expected to be low, the samples will not be sieved. This is only a partial explanation. We suggest that this sentence be revised to explain that sieving of the soil to smaller particle sizes is not being done because residential land use is not expected and exposure to human receptors is currently - and is expected to remain - low.
9. Figure 8A, 8B, Site Conceptual Model
 - a. Exposure to the soil cover by site visitors (current or future) should be shown as a complete pathway to be consistent with the text in Section 2.2.4.9.
 - b. Exposure to sediments and surface water should be complete pathways to off-site receptors (human) to be consistent with the text in Section 2.2.4.5.
10. Page 24, Section 2.4 The development of DQO's in the document is still weak. The DQO Process, as defined by EPA, is a seven step process which eventually arrives at quantitative values or qualitative statements (actual DQO's) for how good your data needs to be to meet project objectives. This seven step process is not discretely detailed in the SAP; only the actual DQOs are presented in Table 1 (though many steps in the process are found at various points in the SAP and the thought process was obviously used to some degree). While the DQO Process is most important for statistical sampling designs, it is also important for other types of sampling, such as the sampling described in this SAP. Based on our current understanding, we feel it is unlikely that going through this process formally would significantly change any of the DQO's presented in Table 1 or the overall sampling design. Therefore, we will not require UPCM to rework the document to include a formal seven step process, but urge you to follow the process closely in future sampling, especially risk-based sampling. Guidance on the process can be found in EPA QA/G-4.

EPA and UDEQ appreciate the opportunity to review the document. EPA's oversight contractor is currently working on an addendum to this SAP which will address split sampling activities. We will provide you a draft copy soon for your review. Once the addendum is finalized, we need to

make final arrangements for laboratory services prior to conducting sampling. If you have any questions on these comments, please contact me directly at (303) 312-6748.

Sincerely,

A handwritten signature in black ink, appearing to read 'JCE', with a horizontal line extending to the right.

Jim Christiansen
Remedial Project Manager

cc: Mo Slam, Utah Department of Environmental Quality, DERR
Betty Grizzle, USFWS, Salt Lake Field Office
Susan Griffin, EPR-PS (via email)
Dale Hoff, EPR-PS (via email)
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